Bonneville Power Administration
Fish and Wildlife Program FY 99 Proposal Form

Section 1. General administrative information

Enhance Squaw Creek Watershed for Anadromous Fish and Wildlife Habitat

Bonneville project number, if an ongoing project 9506001

Business name of agency, institution or organization requesting funding

Confederated Tribes of the Umatilla Indian Reservation

Business acronym (if appropriate) CTUIR

Proposal contact person or principal investigator:

Name	Carl Scheeler
Mailing Address	P.O. Box 638
City, ST Zip	Pendleton, Oregon 97801
Phone	(541) 276-5268
Fax	(541) 276-4348
E-mail address	wildlife@ucinet.com

Subcontractors. List one subcontractor per row; to add more rows, press Alt-Insert from within this table

Organization	Mailing Address	City, ST Zip	Contact
Umatilla Co. Weed Control	3920 Westgate	Pendleton, OR 97801	Matt Voile
Earth Conservation Corps/ Salmon Corps at Umatilla	P.O. Box 638	Pendleton, OR 97801	Modesta Minthorn
Unidentified fence construction contractors hired through bidding process			
Unidentified botany contractors hired through bidding process			
Unidentified forestry			

contractors hired through bidding process			
Unidentified Fence Construction Contractors hired through bidding process			

NPPC Program Measure Number(s) which this project addresses.

7.6A, 7.6C, 7.7, 7.8E, 11.2, 11.3C, 11.3D

NMFS Biological Opinion Number(s) which this project addresses.

Other planning document references.

If the project type is "Watershed" (see Section 2), reference any demonstrable support from affected agencies, tribes, local watershed groups, and public and/or private landowners, and cite available documentation.

Wy Kan Ush Me Wa Kush Wit - Volume 1, Hypothesis 3, **Watershed Restoration**, Habitat: Tributary, Problem Statement, second paragraph, pages 5B-12 and 5B-13 and Hypothesis, page 5B-13.

Wy Kan Ush Me Wa Kush Wit - Volume 2, Umatilla River, Recommended Actions For The Umatilla River, **III. Watershed Management**, page 44.

Umatilla River Drainage Anadromous Fish Habitat Improvement Implementation Plan, Fishery Characteristics -Limiting Factors, last paragraph of page 6 through page 9 and **APPENDIX B**, Riparian Habitat Inventory Summaries - by Subbasin and Stream

The Umatilla River Subbasin Salmon and Steelhead Production Plan, **Part II. HABITAT PROTECTION NEEDS**, **History and Status of Habitat**, pages 27 - 28.

Umatilla Basin Natural Production Monitoring and Evaluation Annual Progress Reports - Physical Habitat Survey Data and Biological Survey Data: 1992 - 1993, Appendixes D and E; 1993 - 1994, Appendixes D and E; 1995, Appendixes D and E; 1996 Appendixes B and D.

Confederated Tribes of the Umatilla Indian Reservation Wildlife Mitigation Plan for the John Day and McNary Dams, Columbia River Basin, Section 1.8.2.2. Squaw Creek Watershed Project, Pages 27 - 29.

Subbasin.

Umatilla River Subbasin

Short description.

Protect and enhance watershed resources for wildlife HEP target Species for the John Day and McNary Pools in the Squaw Creek Watershed and increase natural production potential of existing summer steelhead and re-introduced chinook salmon and coho salmon in the Umatilla River Basin.

Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types

X	Anadromous fish		Construction	X	Watershed
	Resident fish		O & M		Biodiversity/genetics
X	Wildlife		Production		Population dynamics
	Oceans/estuaries		Research		Ecosystems
	Climate		Monitoring/eval.		Flow/survival
	Other	X	Resource mgmt		Fish disease
			Planning/admin.		Supplementation
			Enforcement	X	Wildlife habitat en-
			Acquisitions		hancement/restoration

Other keywords.

habitat enhancement, habitat protection, land use impacts, restoration, Umatilla River Basin, project implementation, water quality, public scoping, education, private lands, monitoring, best management practices, coordination, riparian improvements, instream enhancements, bio-engineering, native vegetation, watershed analysis.

Section 3. Relationships to other Bonneville projects

Project #	Project title/description	Nature of relationship
9604600	Walla Walla Basin Habitat Enhancement	The Umatilla River Basin Anadromous Fish Habitat Enhancement Project shares personnel, vehicles and equipment with the Walla Walla Basin Habitat Enhancement Project to minimize project expense. Component parts of integrated watershed funding sources as prioritized by the Wildlife and Anadromous Caucuses at CBFWA.
8710001	Umatilla Basin Habitat Enhancement.	
956001 & 956000	Squaw Creek Watershed Project - Anadromous & Wildlife Portions	

Section 4. Objectives, tasks and schedules

Objectives and tasks

Obj		Task	

1,2,3	Objective	a,b,c	Task
1.	Address causative factors negatively impacting upland, riparian and aquatic habitats in the watershed by consolidating land ownership through fee title acquisition, purchase of BIA-administered range livestock leases, and development of cooperative management agreements.	a.	Purchase BIA grazing leases for all trust allotments in the watershed. Rest range units to allow for passive restoration and begin implementation of active restoration activities to restore both upland and riparian resources.
		b.	Pursue additional acquisitions, land exchanges or perpetual conservation easements of private lands to directly protect resources from exploitation and/or further degradation.
		c..	Develop cooperative management agreements for protection and enhancement of private and corporate lands.
		d.	Construct and maintain range unit boundaries to prevent trespass livestock and protect upland and riparian resources, grazing allotment boundary/Project area fencing to assure protection of upland and riparian habitats.
2.	Improve water quality and quantity, instream structural diversity, and spawning and rearing habitat and late season rearing and spawning habitat in Squaw Creek and the Umatilla River down stream of the mouth of Squaw Creek through natural recovery processes and habitat enhancements in riparian and upland habitats in the Squaw Creek Watershed.	a.	Design and implement both passive and active restoration actions, including: development of improved range management plans initiated by range rest and development of range improvements; installation of large woody debris to Squaw Creek floodplain, obliteration/closure of drawbottom road networks/installation of drainage devices; collection and propagation of native riparian shrub and tree species for future enhancement activities in the watershed.
		b.	Implement weed control program focusing on riparian and upland habitats under contract with Umatilla County Weed Control.
		c.	Restore native perennial bunch grasses and forbs through seeding/planting and livestock removal.
		d.	Develop and implement access and travel management plan including signing, gating roads, installation of improved drainage devices, and road obliteration to reduce sedimentation/erosion, and enhance wildlife security.

3.	Continue collection of additional resource information/data and continue post-project monitoring to quantify short and long-term effects of habitat protection and enhancement activities in the Squaw Creek Watershed.	a	Establish additional photo points and transects as needed for monitoring recovery of plant communities and stream channel morphology.
		b	Coordinate with Umatilla Basin TMDL Process to monitor reductions in non-point source pollution and existing Tribal fish habitat survey programs to reduce redundancy of monitoring efforts in the basin.
4.	Conduct upland vegetation surveys to identify habitat limiting factors and to quantify short and long-term effects of habitat protection/enhancement activities.	a.	Solicit bids and award contract for plant association surveys. Upland surveys will assist with, watershed condition analysis, HEP updates, and development of restoration strategies
5.	Conduct forest habitat surveys to identify habitat limiting factors and to quantify short and long-term effects of habitat protection/enhancement activities.	a.	Solicit bids and award contract for multiple resource forest inventory/survey Forested habitat surveys will assist with conducting peak flows analyses, HEP, and development of restoration strategies.
6.	Continue watershed enhancement and education processes.	a.	Conduct outreach and coordination efforts at the local community level to secure additional partnerships.

Objective schedules and costs

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1.	2/99	1/2000	25%
2.	2/99	1/2000	5%
3.	2/99	1/2000	5%
4.	2/99	1/2000	30%
5.	2/99	1/2000	30%
6.	2/99	1/2000	5%

Schedule constraints.

Possible constraints might include delays due response times from regulatory agencies regarding issuance of permits for proposed in-stream maintenance work.

Completion date.

N/A - on-going project

Section 5. Budget

FY 99 budget by line item

Item	Note	FY 99
Personnel	Includes 1 month salary for GIS services and 1 month salary for cultural/archeological surveys (Section 106 compliance)	$44090.50
Fringe benefits	28 percent of personnel services	$12,345.34
Supplies, materials, non-expendable property		$17,800.00
Operations & maintenance	Operations & maintenance funding includes approximately 50% of personnel, fringe benefits, supplies, materials, non-expendable property, travel, indirect costs and subcontract funds as indicated in right column.	
Capital acquisitions or improvements (e.g. land, buildings, major equip.)	Acquisition of lands, conservation easements, perpetual lease agreements, grazing leases.	$12,000.00
PIT tags	# of tags: N/A	$0.00
Travel		$4,500.00
Indirect costs	34 percent of personnel, fringe benefits, supplies, materials, non-expendable property and travel	$26,770.00
Subcontracts	Fence construction, noxious weed control, bio-engineering treatments (Salmon Corps), Forest and Upland Vegetation surveys.	$92,494.16
Other	Estimated 1997 Carry-over Balance	$0.00
TOTAL		$210,000

Outyear costs

Outyear costs	FY200	FY01	FY02	FY03
Total budget	$200,000	$200,000	$200,000	$200,000
O&M as % of total	50%	50%	50%	50%

Section 6. Abstract

The Squaw Creek Watershed Project is designed as a watershed-based effort—encompassing the entire Squaw Creek subbasin (about 24,198 acres) of the Umatilla River Basin. A mixture of land ownership patterns exist in the subbasin and include: CTUIR Trust lands, individual Indian allotments, non-Indian private land held in fee title, and National Forest System lands administered by the Umatilla National Forest (UNF).

The subbasin contains approximately 23 miles of anadromous and resident fish habitat and over 50 miles riverine habitat. The subbasin supports spring chinook and coho salmon, summer steelhead, and native redband and bull trout. The area also supports a wide variety of wildlife including Rocky Mountain elk, mule deer, white-tailed deer, black bear, cougar, numerous birds of prey species, beaver, primary and secondary cavity excavators and various other forest ecosystem species including several

species of threatened, endangered, and sensitive fish, wildlife, and plant species. Primary target wildlife HEP species include: mink, California quail, downy woodpecker, spotted sandpiper, Western meadowlark, yellow warbler, black-capped chickadee and great blue heron.

Key objectives of the watershed effort include

- consolidating ownership of available lands through fee title acquisition to protect resources and improve consistent management. Particular emphasis is placed on acquiring lands containing riparian and riverine habitats
- protecting, enhancing, and mitigating wildlife and wildlife habitat impacted by hydroelectric development in the Columbia River basin
- protecting and enhancing cold-water aquatic resources and instream diversity and productivity--contributing to Umatilla River salmon restoration efforts

Primary methods to achieve the objectives include:

- land acquisition, development of conservation easements, and promotion of effective land and resource stewardship
- leasing of existing BIA administered range units within subbasin (two units involved encompassing approximately 16,000 acres) and resting from livestock use to encourage recovery of both upland and riparian resources
- development of a comprehensive management plan that addresses biological objectives, identifies appropriate enhancement and restoration activities.

Section 7. Project description

a. Technical and/or scientific background.

The Squaw Creek Watershed project was identified through development of the Umatilla River Basin Anadromous Fish Habitat Enhancement Project, the Umatilla Drainage Fish Habitat Improvement Implementation Plan (ODFW, USFS and CTUIR, 1988), and the CTUIR's Wildlife Mitigation Plan. The Umatilla River Basin Anadromous Fish Habitat Enhancement Project was developed in 1988 to address in-stream and riparian habitat deficiencies on private lands within Umatilla Indian Reservation Boundaries. This project is partially funded under the Northwest Power Planning Council's Columbia River Basin Fish and Wildlife Program as partial mitigation for hydroelectric dam construction and the subsequent losses of wildlife habitat and anadromous fish throughout the Columbia River Basin. The goal of this project is to enhance natural production of existing summer steelhead and re-introduced chinook and coho salmon in the Umatilla River Basin and restore and maintain wildlife habitats to benefit HEP target species of wildlife .

The Umatilla Drainage Fish Habitat Improvement Implementation Plan (ODFW, USFS and CTUIR, 1988) identified approximately 66.9 stream miles of anadromous fisheries habitat in the Umatilla River Basin requiring restoration or protection measures. All areas identified are higher quality watersheds supporting some level of anadromous fish populations at various life stages, supporting functional ecosystems, containing large continuous blocks of critical habitat and are the most cost effective drainages in which to implement habitat improvements. The Umatilla Drainage Fish Habitat Implementation Plan recommended that CTUIR implement improvements on eighteen miles of the 66.9 miles of stream habitat identified as deficient over a five year period. To date, the CTUIR have utilized BPA and BIA funds to address limiting factors in eight stream miles of the previously identified private lands. Seven miles of stream habitat was identified within the Squaw Creek Watershed.

In 1993, the project shifted emphasis to a comprehensive watershed approach and began

to identify upland and riparian watershed-wide causative factors impacting wildlife and fisheries habitat and natural production capabilities throughout the Umatilla River Watershed. Scoping meetings were conducted to encourage public involvement, assist in identifying detrimental land use practices and to cooperatively develop long-term solutions to improving practices impacting fisheries habitat. Basin-wide physical surveys began to be conducted in coordination with the CTUIR Umatilla Basin Natural Production and Evaluation Project and with ODFW. GIS data base development began for past and present land use practices, ecotypes and habitat inventory data in subwatersheds of concern.

In 1994, the Nonpoint Sources of Water Pollution Assessment and Management Program Plan was completed for the Umatilla River Basin (CTUIR, 1994). This document identifies nonpoint source pollution problems in subwatersheds throughout the basin and prioritizes watershed areas for nonpoint source pollution control work. The plan has been used to assist with development of Oregon Department of Environmental Quality's **303(d) List** of water quality limited water bodies and to establish Total Maximum Daily Loads (TMDL's) within the Umatilla Basin in accordance with the **303(d) List**. The project has relied heavily upon the plan and data obtained from the Umatilla Basin TMDL Technical Committee to assist with prioritization of additional habitat enhancement efforts in the basin.

Fish habitat surveys were also completed in 1994. Approximately 10 stream miles were surveyed from June to August using “Methods for Stream Habitat Surveys” (Moore et al. 1993). Survey results indicated that riffle habitat comprised 50.4% of the area while scour and backwater pools comprised 29.9% of the area surveyed. Fastwater habitats totaled 60% of the wetted area surveyed. The active channel width was found to be 3.1 times greater than wetted channel width. Approximately 18% of the streambank length was actively eroding. Water depth averaged only .23 meters, and the maximum water temperatures were recorded at 22 C. Large woody debris occurred at rate of only 3.4 pieces per 100 meters.

Primary impacts to stream habitat quality were attributed to grazing and secondary impacts to a natural surface road which extended the entire length of the survey area. The road lies immediately adjacent to the stream and has adversely affected channel morphology and degraded the quality of numerous lateral springs. At the mouth of Squaw Creek, tertiary impacts to channel morphology were attributed to railway and highway dikes and bridges.

Fish surveys were conducted during the same time period for the same ten river miles. In 189 sampling units, 3,464 natural rainbow/steelhead, 105 chinook, and 5 natural coho were captured. The expanded population estimate was 37,611 total salmonids. Mean salmonid densities were .97 per square meter for all slow water habitat types (40% of the survey area) and .53 per square meter for fastwater habitat types (60 of the survey area).

The CTUIR Native Plant Nursery opened in 1996 and has been instrumental in providing the project with previously unavailable subbasin specific indigenous plant materials (alleviating concerns about gene pool contamination of existing plant communities).

It is critical that project efforts continue in the Squaw Creek watershed. Land use practices impacting water quality, channel morphology, and limiting available habitat for natural fisheries production have been identified and need to be addressed. Specific threats to resource conditions and future habitat losses and degradation include: commercial timber harvest on private lands (much of it on steep unroaded portions of the subbasin that are susceptible to erosion), livestock range units (stocking rates, distribution, and lack or poor condition of range improvements such as fences and water

sources); and unregulated vehicle access on native surface roads, the majority of which are located in floodplains.

Upland habitat types will be protected to the benefit of both fish and wildlife. Grazing leases have been purchased to allow for upland recovery, and completion of botanical and forestry surveys will allow for the identification of other factors that may be limiting upland habitat quality. Fencing will provide protection of the uplands and allow for natural recovery while these other factors are identified.

b. Proposal objectives.

The proposed schedule, objectives, and tasks, are partially comprised of 1998 objectives that are not expected to be met due to funding constraints. A majority of 1998 funds are allocated for additional land acquisitions. Expending the funds for these acquisitions superseded expenditure of the funds for upland plant association, forest resource surveying, and fence construction. Therefore, those objectives are in effect carried over in this funding proposal.

Objective 1. Address causative factors negatively impacting upland, riparian and aquatic habitats in the watershed by consolidating land ownership through fee title acquisition, purchase of BIA-administered range livestock leases, and development of cooperative management agreements

1. Lease of BIA-Administered Range Units - approximately 20,000 acres of land is included in the lease. Initial management changes scheduled include: resting the units from livestock utilization to initiate upland and riparian recovery; development of range improvements such as boundary fences (estimated five (5) miles) to prevent livestock trespass from adjacent range units; and development and implementation of both passive and active restoration action including propagating and planting riparian tree and shrub and site preparation and seeding/planting of native upland bunchgrass. An estimated minimum of 3,832 Habitat Units for protection credit would be generated. A preliminary HEP analysis projected an estimated minimum of 5,544 enhancement credits, and an estimated combined total 9,376 BPA credited Habitat Units.

Additional land acquisitions opportunities, totaling approximately 4,200 acres, would be pursued in the subbasin to increase the landbase where management control is gained and increase the total number of acres and habitat types protected through acquisition. Both upland and riparian habitat types are target for acquisition. Acquisitions will be accomplished on a willing seller/available funding basis.

Objective 2. Improve water quality and quantity, instream structural diversity, and spawning and rearing habitat

Development of the Squaw Creek Watershed Project Management Plan will include an assessment of existing riparian, instream, and watershed conditions, identification of restoraton opportunities, and identification of conceptual restoration techniques. We anticipate additional site-specific design will need to be accomplished in order to address site-specific conditions and geomorphic processes.

Initial restoration implementation will include: installation of riparian shrub and tree on an estimated 3 miles of mainstem Squaw Creek and initiation of noxious weed control measures. In addition, riparian habitat along Squaw Creek will enter into the first year of livestock rest under BIA/CTUIR range unit lease. Instream habitat restoration techniques could include a combination of strategies including: installation of large woody debris in the floodplain to begin restoration of geomorphic stability, obliteration/recovery of old

drawbottom roads to restore floodplain function, and installation of improved drainage on road crossings.

Objective 3. Collect baseline data and continue post-project monitoring to quantify short and long-term effects of habitat protection and enhancement activities in the Squaw Creek Watershed.

An additional 10 to 20 points will be established to provide a baseline for photo monitoring of vegetation and stream channel recovery.

Thermographs will be deployed in the basin during warm summer months and at the proposed gauging station year round; stream temperature data will be compiled in tabular form; maximum, minimum and average stream temperatures will be graphed and included in the BPA Annual Report.

Objective 4. Conduct upland vegetation surveys to identify habitat limiting factors and to quantify short and long-term effects of habitat protection/enhancement activities

Upland vegetation surveys will be conducted to develop an accurately assessment of existing resource conditions (plant communities and associations and their ecological condition such as native verses non-native, perennial verses non-perennial (grasslands), and structural conditions). The survey will be utilized to ground truth planned digital aerial photography development and provide information useful in HEP applications and in assessing hydrologic conditions of the watershed (erosion/peak flow analyses). Survey will also identify suitable habitat and limited presence/absence information for T&E plant species and data necessary to accurately assess habitat suitability indices for target wildlife mitigation species.

Specific products include: botanical survey report; Arcview theme for plant associations with wide variety of attribute data (species, association, structure/height, composition, T&E presence/absence/suitability,)

Objective 5. Conduct forest habitat surveys to identify habitat limiting factors and to quantify short and long-term effects of habitat protection/enhancement activities.

Forest habitat surveys will be conducted to develop an accurate assessment of existing resource conditions (plant communities and associations and their ecological condition such as native verses non-native, perennial verses non-perennial (grasslands), and structural conditions). The survey will be utilized to ground truth planned digital aerial photography development and provide information useful in HEP and in assessing hydrologic conditions of the watershed (erosion/peak flow analyses). Survey will also identify suitable habitat and limited presence/absence information for T&E plant species and data necessary to accurately assess habitat suitability indices for target wildlife mitigation species.

Specific products include: forest resource survey report; ArcIview theme for timbered plant associations with wide variety of attribute data (species, association, tree sizes (dbh), structure/height, composition, canopy closure, T&E presence/absence/suitability, fuels, down wood/snag density, etc). This data would be utilized to refine HEP analysis,

Objective 6. Continue watershed enhancement and education process.

Outreach and coordination efforts would continue to develop support for watershed

management at local and regional levels, aid in information and technology transfer, and identification of available acquisition and lease lands, and cooperative partners.

c. Rationale and significance to Regional Programs.

The project is consistent with the Northwest Power Planning Council's Columbia River Basin Fish and Wildlife Program. This habitat project is one element in the comprehensive Umatilla Program, which also includes artificial production, adult and juvenile passage improvements (ladders, screens, and trap and haul), instream flow enhancement, and monitoring and evaluation.

Habitat enhancements implemented under this project will continue to result in the following benefits: 1) increased water table saturation zones and instream flow levels during summer months, 2) slower water velocities and narrower stream channels, 3) more diverse native riparian vegetation communities to assist with bank stabilization, provide recruitable wood for instream cover, increase shading, increase insect drop and filter sediments. These combined benefits will aide anadromous salmonids by improving overall water quality, increasing and diversifying fisheries habitat and increasing potential food sources (macroinvertebrates).

Emphasis on watershed-wide habitat is needed for protection and enhancement of upland wildlife habitats and natural production capabilities in the basin. The project represents a continuation of existing efforts to mitigate for McNary pool HEP species and to improve natural production in the Umatilla River Basin. The project will continue to provide critical elements to a comprehensive watershed management approach to help guide implementing agencies and the Tribes in promoting watershed projects, anadromous fish rebuilding plans, and recommend necessary changes to management systems. The project will provide an integrated and comprehensive information base. The project will continue to complement ongoing wildlife mitigation efforts and fish passage and artificial production programs already in place in the basin and will integrate existing on-the-ground management systems and programs on private and public lands with restoration activities to better justify expenditure of funds and time. Coordination will continue between Tribal, local, state and federal agencies and the agricultural community.

d. Project history

The project was prioritized for protection and enhancement under the Umatilla River Basin Anadromous Fish Habitat Enhancement Project, 87-100-01, with an emphasis on its natural production potential for anadromous and resident fish. In 1991, a cultural resources inventory was conducted for 14 spring sites as a precursor to spring development and protection efforts. Additionally, fish habitat surveys and baseline water quality data were collected under this effort.

Physical and biological surveys (Juvenile abundance/distribution, pre-spawning surveys and redd counts) were conducted under the Umatilla Basin Natural Production Research Project to document natural production success and related habitat conditions in the sub-watershed.

The CTUIR implemented a co-operative big game forage enhancement project with the Oregon Department of Fish and Wildlife and the Rocky Mountain Elk Foundation in 1995. The project included aerial application of fertilizer and distribution of salt to improve big game distribution and alleviate private land damage. In severe winters, this portion of the Umatillla Indian Reservation is home to several hundred elk which summer on adjacent USFS lands.

In 1996, two springs were developed to provide water for big and upland game, improve future oppositions for improved livestock distribution, and were fenced to ensure protection of the developments and water quality.

In November of 1997, 5,616 acres of private lands were purchased from the primary land owner in the using a combination of Anadromous and Wildlife funds from BPA. These lands provide the nucleus of the current restoration effort. Additionally, 1,005 acres of CTUIR Trust Land have been contributed to increase the effectiveness of a watershed approach. One hundred and sixty acres of other private lands consisting upland grass/shrub and forested plant communities are targeted for acquisition in 1998.

d. Methods.

1. (1) Lease agreements, conservation easements and acquisitions proposals are developed in-house by CTUIR Fisheries and Wildlife Staff and Tribal Attorneys.
   (2) Cost-share funds are generally secured by CTUIR completing grants applications (USFWS, GWEB, etc.)
   (3) CTUIR's Cultural Resource staff conduct file and literature searches, pedestrian surveys and/or archeological excavations in proposed habitat enhancement areas to determine if cultural resources potentially eligible for inclusion to the National Register of Historic Places are present on the site. Final reports documenting their findings are prepared and submitted to the BIA Umatilla Agency Real Property Management Office (for implementation efforts on the Reservation) and to the State Historic Preservation Office (for implementation efforts, both on and off the Reservation.) All cultural clearances are obtained in compliance with Section 106 of the National Historic Preservation Act.
   (4) Letters are mailed to perspective contractors, and they are encouraged to participate in pre-bid tours and submit bids. Notices to proceed are issued to the selected contractor (s).
   (5) Five-stranded smooth-wire high tensile fence or barbed wire fence is constructed to CTUIR's specifications.
   (6) Native grass mixes have been developed by Grassland West Seed Company based on historical vegetation, soil types and project elevation. Grasses are seeded with a harrow or broadcast seeder. Indigenous trees and shrubs are planted as cuttings or bareroot stock. Bareroot trees are subbasin specific trees produced from seed or cuttings at the CTUIR Native Plant Nursery. Native grass re-establishment has been 50% or greater. Tree mortality has dropped dramatically with the Tribal nursery's trees. Success is nearly 75%.
   (7) Noxious weeds in project areas are chemically treated three times a year by Umatilla County Weed Control. Only level one noxious weeds on the Umatilla County Noxious Weed List are treated. Non-noxious untreated weeds in the Wildhorse Creek Project Area (approximately two stream miles) are currently competing with native revegetation efforts. CTUIR Project Personnel intend to burn and seed these areas with native grasses during winter 1998.
2. (1) Photo points are taken with a 35 mm camera and a standard 50 mm lens. Photos are taken facing upstream in the spring and fall of each spring and fall of each year. A photo point binder containing 35 mm slides is maintained at the CTUIR Wildlife Office
   (2) Summer stream temperatures are monitored with Ryan Tempmentors

and Ryan 2000 thermographs. Thermographs collect maximum, minimum and average temperature readings each hours.

(3) Isco Model 2700 Wastewater samplers are deployed at gage stations to obtain estimates of suspended sediments. Samples are collected year-round at six hour intervals to create a composite daily sample. The samples are processed monthly by Umatilla National Forest Service personnel to determine Jackson turbidity units, conductivity and total dissolved solids.

4. (1) Letters are mailed to perspective contractors, and they are encouraged to participate in pre-bid tours and submit bids. Notices to proceed are issued to the selected contractor (s).

5. Letters are mailed to perspective contractors, and they are encouraged to participate in pre-bid tours and submit bids. Notices to proceed are issued to the selected contractor (s).

6. (1) Lease agreements, conservation easements and acquisitions proposals are developed in-house by CTUIR Fisheries and Wildlife Staff and Tribal Attorneys.

7. (1) Five-stranded smooth-wire high tensile fence or barbed wire fence is constructed to CTUIR's specifications.

f. Facilities and equipment.

Specialized equipment required to implement specific habitat enhancements are specified under construction contract agreements with subcontractors. Project leaders possess desk-top computes and appropriate software (Microsoft Office, ArcView) to perform duties associated with this statement of work.

g. References.

Section 8. Relationships to other projects

The restoration of fisheries resources in the Umatilla Basin has been a coordinated effort between Tribal, local, state and federal agencies and the agricultural community. CTUIR's cooperators include Umatilla County, ODFW, NRCS, USFWS, and the Umatilla Basin Watershed Council and numerous private landowners. Examples of project cooperation include the Umatilla Basin Project, the Umatilla River Subbasin Salmon and Steelhead Production Plan, and the Umatilla Basin Anadromous Fish Habitat Enhancement Project and the Umatilla Hatchery and associated artificial production plans. This coordination has continued and expanded through public scoping meetings formed to identify issues and develop creative solutions to land use problems in the basin. CTUIR intends to continue these coordination efforts in implementation of the Squaw Creek Watershed Project.

Opportunities for cooperation through cost sharing has also been emphasized in the Umatilla Basin. Entities providing funding for stream/watershed habitat enhancement include BPA, CTUIR, UPRR, EPA, and USFWS.

Close cooperation is maintained between various entities (CTUIR, ODFW, County, NRCS) implementing habitat protection and enhancement actions to facilitate sharing of equipment, techniques, success and failures. Project implementors also collaborate with

DSL, US Army COE, and Tribal fill and removal permitting processes in order to accomplish work.

The following are CTUIR or CTUIR Collaborative planning documents that are also related to Squaw Creek Watershed Project Mitigation efforts:

CTUIR. 1994. Non-point Sources of Water Pollution Assessment and Management Plan. EPA Region 10 Publication, Seattle, WA. page 37.

ODFW, USDA Forest Service, CTUIR. 1988. Umatilla Drainage Fish Habitat Improvement Implementation Plan. page 32.

Section 9. Key personnel

Wildlife Biologist
Months funded this project: 5
Education: BS Wildlife Science 1990 Oregon State University
Experience: 10 years - 8 years as Co-operative Education and Biologist with USFS, 2.5 years as project manager for the BPA/CTUIR's Wanaket Wildlife Mitigation Project.

Bio- Technician
Months funded this project: 5
Education: High School Diploma
Experience: 6 years of USFS experience in fish habitat protection and restoration, experience in coordinating and implementing on-ground projects, contract inspection and riparian protection. Three years experience as a wildlife technician for the CTUIR.

Bio-Technician
Months funded this project: 5
Education: High School Diploma
Experience: 10.5 years of habitat protection and restoration work; experience in coordinating and implementing on-ground projects pertaining to riparian protection.

Section 10. Information/technology transfer

Project reports of accomplishments are produced quarterly and annually. Project personnel sponsor field tours at any time requested to show accomplishments, challenges and techniques. Project personnel also frequently participate in local public forums (workshops, classrooms, multi-agency review of removal/fill permits throughout the Umatilla Basin).

Congratulations!

Thank you for completing the FY 99 Proposal Form. Please print and save this file to diskette, and mail both to the address shown at the top of this document. To ensure a thorough review of your proposed work, this form will be screened for completeness. If it is not complete, it may be returned to you with a request for additional information.